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ABSTRACT

Environ County is a simulation gaming activity designed to provide insight into regional planning. Developed as a learning experience for decision makers and public participants, the simulation emphasizes the integration of political, social, economic, and environmental issues in the resolution of five complex sociotechnical problems. The game simulates a meeting of the Regional Planning Commission of a fictitious county in which participants assume roles of commission members and interested citizens. Package data includes a newspaper, a large three-dimensional model of the county, a notebook of resource information, and a general introduction with regulations. An informal atmosphere of leaderless group discussion and a formal structure of parliamentary procedures force a confrontation and decision on the problems and issues presented. The political, social, economic, and environmental considerations that should arise during the game are discussed in the game handbook, as well as intended audience participation roles. Details of the evaluation process, a list of county participants, and a description of the county are appended. (Author/KSM)

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ENVIRO COUNTY

A GAMING SIMULATION of REGIONAL PLANNING PROCESS

Peter H. Cohan

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ENVIRO COUNTY

INTRODUCTION

"Enviro County" is a Simulation Gaming Activity designed to provide participants with insight into regional planning. It was developed by the Cooperative Science Education Center, Incorporated, as a learning experience for decision makers and attentive public who serve as participants in a realistic decision-making situation. The Simulation has been designed to emphasize the integration of political, social, economic, and natural environmental issues in the resolution of several complex sociotechnical problems. The Simulation creates a setting wherein both objective and normative information impinges on the decision-making process[1] thus highlighting the complexities that arise when rational problem solving is attempted in a social system[2].

The game simulates a meeting of the Regional Planning Commission of a fictional Enviro County wherein participants assume roles of Commission members or interested citizens. In order to focus the discussion immediately, the participants sit around a large three-dimensional model of the County. Each participant is provided a notebook containing background material for his role in the simulation. Credible problems with realistic complications and interrelationships were designed for this Planning Commission by carefully studying the actual process of planning and land-use decision making in U. S. society--from its basic structure and responsibilities to the make-up of personalities and interests on a typical planning commission.

Regional planning and decision making are parts of a highly complex and dynamic social and political process. Planning for a large region is

fragmented and diffused among private individuals, organizations and public agencies at each level of government[3]. While individuals within interested groups play a role, it is their interaction that seems most important. Each participant in the process takes his informational cues from others and in turn responds to their actions. In this way, many forces that are not shaped solely by the factual information presented impinge on the regional planning process. The individual's values play a major role in decision making[4]. These values may be expressed in political, social, economic, or environmental terms and are demonstrated by the participants' behavior. It is important to note that regional planning rarely resolves problems to everyone's satisfaction. However, research has indicated that the greater the number of public participants who are included in the planning process, the more acceptable the end results from the view of public interest[5].

Enviro County - Simulating the Planning Process

The complexity of contemporary environmental problems makes it more and more difficult to provide effective training for individuals who most frequently make decisions that affect large segments of society. One useful training technique is that of simulation. "Enviro County" is a simulation developed by the Cooperative Science Education Center, Incorporated, to serve this purpose.

In selecting a format to simulate decision making in planning, the developers of the Simulation created an imaginary county, Enviro County, with real and typical problems. They then determined that the training experience in planning would occur during a meeting of the Enviro County Regional Planning Commission, consisting of fifteen members whose identities, personalities, and interests would be predetermined through specific roles.

Through the use of the broad regulatory organizations such as a Regional Planning Commission, participants are confronted with a cross section of problems and their complex interrelationships. The Regional Planning Commission is one of a number of associated state-wide county planning commissions working toward the common goal of better land use in urban and rural areas. However, to underscore the fragmented and diffused system for implementing plans, the Regional Planning Commission can only make recommendations to the appropriate legislative bodies (state legislature, county commission or court, city council, etc.), all of whom are elected political bodies. In addition, using the Regional Planning Commission brings in two other factors in planning: (1) that these people are appointed to their positions and therefore to some degree are products of a political "spoils" system, and (2) that these are local people making decisions about local problems with the consequent high incidence of conflicting vested interests and pressures. Thus, through the Regional Planning Commission meeting dealing with the conditions within Enviro County, participants are forced to consider the political, social, economic, and environmental facts and pressure groups and their associated value systems--their own, that of their role, and those of the other Commission members.

Human values are presented primarily through the character roles since the written material is mainly concerned with the background data for the problem areas. Individuals have the opportunity to inject special and personal interests into a decision-making body that is supposed to act representing general interests. The resulting rhetoric and emotional appeal concerning the solutions (and methods used to

achieve them) effectively reveal the influence that value systems can have on decision making.

The important influence of the political system on planning and decision making in Enviro County is apparent in the roles played and in the social-political hierarchy of the simulated county. Since it is their association with certain persons and organizations that has put them in a position to be appointed to the Regional Planning Commission, the Commission members have unwritten responsibilities to these persons and organizations. And although a cross section of the community is represented on the Commission, there is more representation from business and industry, which frequently are the largest contributors to political campaigns and, consequently, often have more political power.

Enviro County's representation of the social and political pressures on planning comes through the Commission members, the audience participants (the public representatives at the meeting) and the issues themselves. Since, ideally, planning should be in the public interest, the Commission involves the public in the decision-making process by having them present at the meeting as "audience participants." The interplay between the different social groups represented either on the Commission or through the audience reveals the underlying power structure of these groups as well as the interaction of the forces in public debate. Though the impact of this advocacy planning is evident in Enviro County, it is likewise apparent that it is not always sufficient to sway the decisions of the Commission on issues that are in the interest yet contrary to private interests who are well represented on the Commission.

Evaluation of data in economic and environmental terms occurs through the individual's interpretation. The costs of solutions are

explicit and the benefits are left up to the evaluation of the participants. The data concerning what physically could affect the environment are also usually treated factually, but the long-range impact of these environmental insults is either unstated or only implied. Consequently, the participants may capitalize and expand upon these data to support their stand. This allows for a great deal of flexibility in the game and encourages the creative use of the data presented.

Game Format

The atmosphere of the game from the moment of introduction to the final evaluation is critical in determining the success with which the game is played and its impact upon the players. Participants are made to feel relaxed by the comfortable surroundings and the informality of the sessions. Movement during the session is not restricted and participants are urged to be creative in their role playing. This relaxed atmosphere is significant in determining the rapidity with which players move into their roles and the game itself. Upon arrival, participants immediately assume roles, are given a thorough introduction to the game and are allowed to review the data pack. This rapid involvement in the simulation is important in creating a sense of reality and identifying with Enviro County. Because the roles themselves are particularly suited to forcing the emergence of value systems, interests, emotions, and other nonrational elements present in decision making, the creation of an atmosphere which hurries and eases the transition into the simulation can be the critical factor in its success. The newspaper, the Changeburg Times, is part of the packaged data and is especially helpful in producing this effect since it creates a realistic picture of this imaginary county, its people, and current situations therein.

In accord with the informal atmosphere is the concept of Leaderless Group Discussion, the foundation of player interaction during the simulation activity. Although there is a chairman of the Enviro County Regional Planning Commission (CSEC staff member), he may not discuss issues, nor may he act as a resource person. This chairman maintains order and occasionally votes to break a tie but primarily encourages orderly discussion among participants. This then forces players to use their data packs, newspapers, and personal ingenuity.

There is some formal structure to the game, however. The Planning Commission operates using parliamentary procedure with the exception that motions may not be tabled, and none of the stated alternatives may be amended or combined in such a way as to alter the intent of the original alternatives. These regulations force a confrontation and a decision on the problems and issues presented. Although there may well be better solutions to the problems than those alternatives offered, these procedural maneuvers compel the encounter of inherent and often controversial issues and situations.

The sequential procedure for game play is intentionally structured to add another realistic dimension to simulating planning and decision making. Since most of the participants have not seen the data prior to their arrival, time must be allotted for review of the data pack and newspaper. After the verbal introduction by the chairman, players spend time reviewing the general background information on Enviro County, the roles, the agenda, and the newspaper. Following each decision, the subsequent problems and supportive data are reviewed briefly. This serves two purposes: (1) it keeps the data for each problem fresh in the minds of the players and (2) it frequently forces the Commission to compensate

for problems created by its early decisions later in the game. This second purpose introduces another factor that occurs in planning and decision making, the reduction of future options by previous decisions.

Physical Aids

The physical aids in the simulation consist of the data pack, a large notebook of resource information; the newspaper, the Changeburg Times, which is the largest daily published in Enviro County's largest city; and the 8' x 12', three-dimensional, color-coded model of Enviro County (see design, construction section attached) around which the simulation of the Planning Commission meeting occurs.

The data pack includes a general introduction to the simulation and explains the regulations governing play. A description of the county follows--giving meteorologic, topographic, demographic, etc., data and a zoning color code which complements the model. There are maps and architectural renderings throughout the data pack to illustrate more graphically the problems and proposed solutions. The members of the Planning Commission have paragraph descriptions of each of the other members which reveal interests, professions, place of residence, attitudes, etc. Role data are followed by the sequential presentation of the five problems, the alternative solutions, and the supportive research on the situations. And, finally, the data pack includes the Impact Evaluation which is a supplementary aid used during the final evaluation of the game to review the probabilities of impact that each of the alternative solutions to the problems would have had on Enviro County in a real situation.

Problem Development and Revision

In the development of the problems for Enviro County, the basic issues to be confronted were identified. In addition to looking for those problems that planning commissions frequently consider, the CSEC staff looked to those issues, particularly environmental ones, which were in the public limelight and how planning concerned them. Some of the major issues were spot zoning, urban renewal, strip mining, traffic congestion, water and air pollution, energy needs, suburban sprawl, urban decay and rural decline. The design of these issues into five problems confronting a single geographic area at one time reflected reality.

The characteristics of the County were selected to provide geographical circumstances not unlike the Southeastern United States. The total land area is 900 square miles and includes low hills, two lakes (one formed by a dam, the other naturally formed), a river, farmland, part of a city and its suburbs, and an industrial area. The County has rail service and a major highway running through it. Average high and low temperature ranges are from 68°F to 48°F and the area receives 50 - 60 inches of precipitation annually. Elevation ranges from 1,000 to 1,100 feet above sea level. The population is 69,000 with 13% (9,000) living in the rural area and 87% (60,000) living in Changeburg (total population - 200,000). Forty percent of the county is farmland with an average farm size of 106 acres. The large lake, Lake Ono, formed by the damming of the Current River, has its entire shoreline zoned for industrial use in the county with heavy and light industry on opposite banks. The major employer in the county is the nationally

based Volatate Chemical Corporation whose home offices are in Changeburg. There has been strip mining on one of the ridges adjacent to the river. Average annual family income is $6,000. There are 2,500 unemployed (3.6% of the population) in Enviro County and 60% of these live in Changeburg. Unemployment has been rising slowly for the last 10 years.

From this brief description, one can readily see the introduction of many of the aforementioned issues. The five major problems selected were industrial spot zoning, urban decay and renewal, traffic congestion, water quality and availability, and energy needs with various contingent issues interwoven.

Newspaper

The Changeburg Times presents a cross section of the problems and situations in Enviro County on the day that the Planning Commission is to convene. Incidents are reported and articles written which accentuate the specific issues to be discussed at the meeting. In addition, the articles contain information to supplement the resource material and project into the facts and statistics the intangible human situations these represent. In advertisements and articles each of the 15 Commission members is mentioned in the Times, thus clarifying roles and giving participants something with which to identify immediately.

Role Development and Value System Assumptions

The value system of the individual faced with making public decisions is central to the regional planning process. Either by rational or nonrational means, values are placed on the available options and priorities are established[6]. For example, the problem of public interest

vs. special interest is a frequent area of indecision. Decisions are often made that directly advance the objectives of the private sector at the expense of the public. If no such decisions were made, it is likely that the collective economy of a region would fail. Yet, the conflict of values must somehow be resolved.

Many times objective criteria, standards and measures are lacking. The rational problem-solving notion dictates that decisions must be made on proven land-use and planning principles. However, the operative principles are often shaped by a set of values which places high priority on private use rather than public access. Application of these principles thus becomes a covert means of forcing one set of values on the unsuspecting public sector. Their reaction, which may be nonrational, may be appropriate as they attempt to reverse this pattern.

Lacking access to information for planning purposes, the decision maker who is concerned with advancing the "public interest" often must rely on personal judgment, on assertion rather than on substantiated proof on rhetoric and personal and political persuasion, thus introducing the non-rational element.

Political Considerations

The relationship of the planning process to the political power structure of the city or county poses major issues for those involved in the planning process. Special interests will exert pressure to alter or hinder planning in a particular area if their ends are not served[7]. These interests may be those of a neighborhood or citizens group with a local and specialized interest. Many times zoning boards

or planning commission members are hard pressed to view a proposed planning or zoning change objectively if the request comes from a citizen with political power and a special interest. Members of planning boards are usually appointed by elected officials, which often greatly increases the complexity of the problem-solving process. In some urban areas where property values are high, planning commissions are elected, and consequently, politics plays a very important role in the planning process. The landowning group is one of the more powerful groups that exert pressure upon elected officials[8] by promising political support, and through contributions to the campaigns of elected officials. Corporate landowners attempt to influence the actions of elected and nonelected public officials on almost all issues involving land-use policy. This influence is frequently accomplished through a third party such as a local banker or a Chamber of Commerce committee. There are many instances where principal landowners and realtors are named to the planning group, thus increasing their direct influence and decreasing the ability the individual citizen has to affect land-use policy decisions short of the courts.

Social Considerations

Certainly, one major issue concerns the role of the general public in planning activities. Traditionally, planners have developed land use or other plans to what they considered a final and defensible stage and only then sought public understanding and support. Rarely is the public invited or even allowed to participate in the actual development of the plan. Moreover, planners of urban developments have rarely consulted with land speculators, developers, and merchant builders in land-use

planning, perhaps because these groups might well have sought to take advantage of anything they learned by consultation with planners[9]. Yet, in the final analysis, the land-use plan must serve the individual as well as the corporate land interests. Whether to include the general public during the planning process is an issue which many planners have not recognized. They have operated as professional planners barring public interference until the plan was completed and have frequently been disappointed in the public reaction to their schemes or grand designs.

The regional planning process can be used to emphasize the positive value of cooperative public and governmental planning and action. Notwithstanding, the current decision-making process with its free-wheeling involvement of the public has on occasion obligated uncooperative bureaucracies to act responsibly and in the public interest.

Planning has from time to time been used in a restrictive or defensive sense--to restrict what could be done, to impede new and nonconforming land uses, and to preserve established land values. Used differently, it could promote social integration rather than allow a highly segregated public to continue to divide along lines of age, income, family stage, occupation, and race[10]. Cooperative planning can overcome the tendency of one group to inflict damage upon another: A factory discharges smoke into the air which damages property downwind for considerable distances; or a town discharges wastes into a convenient stream with a consequent hazard to those downstream.

Positive social values are derived when a deteriorating community is uplifted through problem-focused planning which, in turn,

can be a catalyst to further development[11]. To this end, planners are now beginning to include economists, lawyers, and other specialists in their planning[12].

Advocacy planning is a type of urban planning of relatively recent origin[13]. Citizen groups in a metropolitan area have sought to establish their own planning organizations. These may be racial minorities or low-income groups from the older city; they may also be middle-to-higher income people from suburban areas. In each case, the group feels that its interests are not properly taken into account in the public planning process; it seeks to create a planning machinery that will serve its own ends and help defeat those aspects of public plans that it does not like. Such planning bodies are more akin to private industry planning organizations of an earlier period than to the typical public planning body today. The latter seeks, with variable success, to develop plans that serve all citizens to a reasonably satisfactory degree. Industry and advocacy planning seek to serve the interests of their organizations--interests that may be narrower than those of the public as a whole.

Economic Considerations

The economic considerations in planning decisions fall mainly into two areas: public cost vs. public benefit[14].

Public cost is, for the most part, measured in dollars and cents and covers all phases of the development from design to implementation. Some intangible costs may be accrued, such as environmental, for which values can be only estimated. Public benefit may be tangible and measured in dollars, but more than likely will contain large normative components. Cost-benefit calculations, however, have become a standard

tool of planners in many types of public investments. An additional cost or benefit is sometimes accrued, however indirectly, by those whose property, for instance, may be adjacent to the public investment.

Natural Environmental Considerations

The environment has always played a part in the planners' decision-making. However, events of recent years have focused attention on the problem of planning for human needs without endangering the environment[15]. The analysis that must take place when deciding on a location for industrial plants, residential communities, recreation centers, etc., may be so complex that specialists in the "environmental field" are sometimes called in to give an estimate of the impact that the future development will have on the area. Even then it is only an estimate at best, and from this value, judgments are made as to what must be respected and what may be altered. For example, the integrity of the environment may have to remain intact as much as possible, and this may give way to higher development costs.

Thus, the decision to use roles in the Enviro County Simulation was based on the tenet that decisions are made by people who bring to decision making their personalities, culture, interests, moods, experiences, and attitudes--all of which influence them either consciously or unconsciously.

The Integration of the Simulated Problems with the Commissioners' Roles

In order to project the impact that these human factors can have on decision making, the architects of Enviro County decided to create imaginary personalities rather than to allow game participants to portray

themselves. Most of the people in a given group participating in Enviro County (See Appendix B) are acquainted with each other, and often share certain attitudes and values. Thus, it was felt that the diverse value influences could easily be overlooked and that the participants might well concur on the alternative solutions without going through the essential deliberation of all the issues.

To achieve this essential debate, characters were created with varied interests and attitudes and reflect rather realistically the varieties of persons and interests normally present on a Planning Commission. Since most Planning Commissions are usually appointed by an elected official or group, it can be assumed that at least some of the appointments are political. For this reason, even though a cross section of interests is represented in the Enviro County Regional Planning Commission, the roles selected represent what might be a typical planning commission with heavier representation given to those interests and persons with more political influence and interests.

The roles in Enviro County are varied in their degree of structure. Some are tied to certain proposals and specific interests, leaving little room for question concerning obvious proposals the role-playing participant should support. Others are not necessarily tied to specific proposals and have more explicit personality and life style descriptions included in the role material. In addition, most of the role characters have covert written "cues" which affect their opinions or attitudes during the simulation of which no one else is aware. Role players may choose whether or not to use these. These cues and role structures obligate the interplay of various personalities and interests to achieve

productive debate and, yet, permit creative and interpretative development of the roles by the participants.

Of the 15 members on the original Planning Commission (including the Chairman), there are 12 males and 3 females. This, however, was revised after seven months of evaluation sessions to reflect the sex ratio of the participants. Nine substitute roles have been created so that the make-up of the Commission can be varied according to need. The group is now capable of being all male with the replacement of the three female roles by three male counterparts. It can also consist of nine females and six males through substitution of six new female counterpart roles or any ratio between the two.

The rationales behind these ratios are several. First, in the groups playing Enviro County until the time of this change, males far outnumbered females. Secondly, although there were some outstanding and amusing performances by men in women's roles prior to the change, most of the men appeared inhibited in having to play women's roles. Interestingly enough, there were little or no obvious inhibitions on the part of women playing men's roles. Consequently, although the ratio is probably more realistic at 12-3, the substitute roles have facilitated better role playing by all participants, thus increasing the effectiveness of the simulation.

There is a deliberate prearrangement of roles favoring business, industry, and economic growth on the Commission. This structure realistically reflects the influence of this sector on planning and public decision making. Moreover, it provides a base of arguments for private enterprise which in our experience has not received sufficient representation among the participants when the great majority of the roles

were flexible enough to allow players to choose whether or not to represent business or commerce. The breakdown of roles representing various interests are as follows: Volatate Chemical Company (Enviro County's largest employer) - seven; large and/or small business - seven; economics - three; beautification and esthetics - three; recreation - two; and one each for environment, women's rights, community tradition and history, labor, farming, and church or religious matters. As previously indicated, some of the roles permit flexibility as to interests and concerns, thus allowing increased support among the less represented viewpoints. In addition, coalitions of interest groups often develop during the game favoring one or another alternative solution. These potential shifts have proven to be an effective balance in productive debate as evidenced by frequent close votes and ties on the policy alternatives.

Audience Participation Roles

The opportunity of participants to apply pressure to the Planning Commission and to increase the reality of the meeting is advanced through flexible audience roles. Five roles have been created to represent farmers, students at the Community College, residents of the depressed area (the Hub), residents of the upper-middle income Suburban Hills area, and members of the local League of Conservationists. All of these groups have an interest in one or more of the problems before the Commission. They are encouraged to make presentations in support of their stands in creative ways. They may address the Commission at any time during discussion, but they may not make motions or vote. The addition of these roles increases Enviro County's ability to reach the target population, increases the scope of debate and is an important dimension to the simulation.

The Problem Set

Problem I

The first problem is to decide whether or not to allow Volatate Chemical Company (the county's major employer) to rezone agricultural land for heavy industrial use--a new plant. The Company requests a site which is just below the dam and adjacent to the highway (which has been the traditional boundary for heavy industry) because it needs the cold water from the base of the dam for cooling purposes. A location on the lake above the dam would involve a pumping system and be prohibitively expensive.

Problem II

The second problem involves an economically depressed six-block area in downtown Changeburg which is eligible for a Federal Turnkey III housing project. Turnkey III provides for the construction of single family dwelling units and liberal financing for homeownership for persons with an annual income of $3,000, or less. In addition, there are proposals to construct a park on four of the six city blocks which would also preserve a local historical site, and for the erection of a 40-story office building for Volatate Chemical Corporation on the other two blocks. Volatate already owns three-fifths of the land in question.

Problem III

Problem Three deals with traffic congestion on the major highway through Enviro County and Changeburg. The alternatives to be considered are: (1) construction of a new limited access highway roughly paralleling the route of the old highway, (2) construction of an unlimited

access highway along a similar route proposed for the limited access highway, (3) limiting access on the old highway and building marginal access roads to serve the large strip of commercial area along the highway, and (4) extension and updating of the city's mass transit system to include the industrial and suburban residential and commercial areas.

Problem IV

Water quality is the topic of Problem Four. Participants are asked to provide water to the area and have several alternatives: (1) clean up the lake presently supplying the city's water through the construction of a new, large water purification and sewage treatment plant; (2) build reservoirs near the city; (3) dig wells to an aquifier which contains a 50-75 year supply of water; (4) pump water from Swizzletown, 30 miles away, which has an abundant clean water supply; and (5) hire permanently a three-man team to monitor the city's lake and to levy stiff fines on polluters.

Problem V

The County's power supply of 500 megawatts from the local steam plant will soon be inadequate; 700 megawatts will be needed in five years. To meet these power demands, there are several alternatives: (1) build a 700-megawatt capacity nuclear power plant in addition to the coal plant and thus create a surplus for resale or for future needs; (2) build a 700-megawatt capacity nuclear power plant and phase out the steam plant upon completion of the new facility; (3) provide additional turbine systems to the existing dam to provide 100 megawatts of hydroelectrically produced power to operate at

peak demand periods; (4) expand the present steam plant to produce an additional 200 megawatts and thus meet the projected 700-megawatt need; and (5) leave the situation as it is, following the recommendation of the Committee for the Preservation of Enviro County, a local group of radical conservationists.

Each of these five problems and alternatives is presented; and realistic cost estimates, social and cultural factors, as well as environmental impacts are briefly provided. The strip mining issue was unable to achieve the prominence originally planned for Enviro County because the complexities of its regulation through various government channels made it an unfeasible agenda topic for a Regional Planning Commission.

Details of the problems used in Enviro County were derived from information on actual local, regional, and national situations and studies. The data, of course, were adapted to suit Enviro County and Changeburg's particular characteristics. Some of the research sources were the Morningside Urban Renewal Project in Knoxville, the Highway Location Analysis of Massachusetts Institute of Technology, Scientific American, and reports of the Tennessee Valley Authority, and the Atomic Energy Commission (on power production and use), to name a few. In addition, staff members of Oak Ridge National Laboratory were consulted in the research and development of the problems.

For several reasons, the problems were structured with increasing complexity from simple yes-no decisions to five interactive alternatives for one problem. First, it takes some groups a while to adjust to the game and for many the simple structure of the first

problem, whether or not to spot zone an industrial site, eases their entry into it and prepares them for more complex decisions. Second, the "leap-frog" approach to these problems often vividly points out to the participants the impact of their early decisions as they are required to compensate for them later in the game. For example, if the industrial spot zoning passes in Problem One, by the time group members reach the Problems Three and Five on transportation and energy needs, they realize that they have committed themselves to an industrial expansion that further compounds other problems which face them and which they must consequently resolve. Such interrelationships of problems are highlighted throughout the entire simulation. And, last, the emergence of the interrelationship toward the end of the simulation moves the discussion from the clear-cut cost-benefit arguments of the early problem to a philosophical reflection not only of what the participants have done as a Planning Commission, but what they want to do. They begin to discuss the merits of "master planning," specifying goals and objectives, and turn their debate away from the basic question to more philosophical concerns such as "Do we want to grow?" "What is progress?" and "How could we achieve a high quality of life?" From this type of discussion at the end of the session, participants are quite receptive and eager to contribute to an evaluation by CSEC staff members.

Evaluation

The evaluation of each Enviro County session is conducted by the CSEC staff in an informal round-table discussion immediately following the completion of play. The half-hour wrap-up begins with a thorough explanation of the game--the rationale of its development and the way

in which its structure is meant to support this rationale. Reviewing the decision-making process and how the participants simulated it is the subject of further discussion of the complexities involved in environmental problems and planning.

Next, the discussion turns to role playing, and the utilization of the data pack and personal resources. The CSEC staff members comment on the quality of the role playing and its significance in the interaction in that particular session. They also note what data were fully used, what data were not fully used (and seek to determine why), and what information was presented that was not in the data pack and the impact this had or could have had on the game.

Finally, there is a discussion of the probable and potential effect that each decision of the participants would have on Enviro County's environment, economy, and society, if it were a real situation. It is emphasized that if Enviro County were real, it would be the ultimate decision that would be operationally significant, not how close the vote was, nor, for the most part, what discussion occurred or who said it. The situation qualifies these probable and potential effects, and it is recognized that in implementing the decisions it is possible that measures could be taken to reduce the negative effects of each decision.

Response to the game has been quite positive and the ease with which the varying groups play the game indicates its flexibility. Participants have ranged from area junior high school students to federal civil service executives and from community action councils to the Tennessee Association of City Managers, along with many and

varied classes from the University of Tennessee. Though the degree of sophistication with which they approach the game varies, all of the groups have indicated that it is an enlightening and educational experience, bringing them all to a better understanding of the decision-making process and the complexities of environmental problems in planning. Details of the evaluation process and results are given in Appendix A.

FOOTNOTES

[1]Herbert J. Gans, People and Plans, Essays on Urban Problems and Solutions, Basic Books, Inc., New York, 1968, pp. 71-75.

[2]Ibid., p. 54.

[3]Bernard J. Frieden and Robert Morris (eds.), Urban Planning and Social Policy, Basic Books, Inc., New York, 1968, pp. 23-27.

[4]Ibid., p. 24.

[5]Ibid., pp. 24-26.

[6]Ibid., pp. 25-26.

[7]Gans, pp. 57-59.

[8]Ibid., p. 62.

[9]Frieden, pp. 9-22.

[10]Ibid., pp. 156-162.

[11]Gans, pp. 78-83 and Frieden, pp. 49-52.

[12]Frieden, pp. 23-39.

[13]Gans, p. 73 and Frieden, pp. 311 and 328.

[14]Frieden, p. 11.

[15]Lynton Keith Caldwell, Environment: A Challenge to Modern Society, Natural History Press, Garden City, New York, 1970, pp. 2-26.

[16]Bernard Berelson and Gary A. Steiner, Human Behavior, An Inventory of Scientific Findings, Harcourt, Brace & World, Inc., New York, 1964, pp. 180-182.

[17]George S. Klein (ed.), Psychological Issues, International Universities Press, Inc., New York, 1959, pp. 137-140.

[18]Berelson and Steiner.

BIBLIOGRAPHY

Albertson, Peter and Margery Barnett, eds. Environment and Society in Transition, Annals of the New York Academy of Science, Volume 184. New York Academy of Science: New York, 1971.

Anderson, Stanford, ed. Planning for Diversity and Choice: Possible Futures and their Relations to the Man-Controlled Environment. MIT Press: Cambridge, 1968.

Berelson, Bernard and Gary A. Steiner. Human Behavior, An Inventory of Scientific Findings. Harcourt, Brace & World, Inc.: New York, 1964.

Caldwell, Lynton Keith. Environment: A Challenge to Modern Society. Natural History Press: Garden City, New York, 1970.

Crecine, John P., ed. Financing the Metropolis: Public Policy in Urban Economics, Urban Affairs Annual, Volume 4. Sage Publications: Beverly Hills, California, 1970.

Frieden, Bernard J. and Robert Morris, eds. Urban Planning and Social Policy. Basic Books, Inc.: New York, 1968.

Gans, Herbert J. People and Plans: Essays on Urban Problems and Solutions. Basic Books, Inc.: New York, 1968.

Klein, George S., ed. Psychological Issues. International Universities Press, Inc.: New York, 1959.

Twelker, Paul A., ed. Instructional Simulation Systems. Continuing Education Publications: Corvallis, Oregon, 1969.

Zuckerman, David W. and Robert E. Horn. The Guide to Simulation Games for Education and Training. Information Resources, Inc.: Cambridge, 1970.

APPENDIX A

ENVIRO COUNTY EVALUATION

ENVIRO COUNTY EVALUATION

The Cooperative Science Education Center has recently completed an evaluation of the Enviro County gaming simulation described in the first part of this report. The evaluation utilized the responses of 249 civil servants and 84 graduate students who were selected as the sample drawn from the total participant population. The evaluation design was structured so as to make both objective and subjective estimates of the worth of the simulation as a means to instruct the participants in the complexities of regional planning and the relationship of social, political, economic, and natural environmental factors.

The evaluation instrument was designed with two principal parts. The first part dealt with the ability of participants to recall specific components of the simulation. This portion of the evaluation was designed to document the fact that the simulation resulted in positive measures of two generally accepted learning theories concerning retention and perception--that (1) things important to remember are remembered better than things that make little difference (importance is defined subjectively) and that (2) the better perceived and learned initially, the longer and more accurately material will be remembered[16, 17].

The second portion of the evaluation concerned itself with subjective scale score evaluation of specific components of the simulation associated with regional planning. Included in this section was a series of questions permitting the participant to rate various organizational aspects of the simulation activity.

All participants surveyed had a minimum of three months lapse time between the actual period of participation in the simulation and the completion of the survey instrument. Of 333 survey instruments sent out, 281 were completed and returned. Two hundred nine of the civil servants returned the documents, while 72 of the university graduate students made up the remainder of the responding sample. Detailed information was collected on each participating group during the simulation. This information included the name and the role character played by each participant, the specific problems dealt with during the simulation in which he participated, and the disposition of those problems. He was also queried regarding special information concerning unusual occurrences during the simulation activity with which he was involved. Thus, the responses to each recall question could be checked for accuracy in some considerable detail.

In response to the recall section the following data are presented in Table 1.

Table 1. Recall of Simulation Problems, Their Solution and Commissioner Roles

Question	Yes	No	Number of Yes Correct
Can you recall the first problem?	89%	11%	78%
Can you recall the solution?	75%	25%	69%
Can you recall your role or other roles?	81%	19%	80%
Can you recall other problems?	78%	22%	75%

Participants were also asked in Section One to rate the overall impact of the simulation on their perception of the problem-solving

process. The mean response on a 1 to 10 scale, where 1 was little impact and 10 considerable impact, was 6.65 with a standard deviation of 2.05.

In Section Two of the survey the mean scale score values in response to the questions were as follows:

Table 2. Evaluation of Content and the Decision-Making Process

Question	Mean	Standard Deviation[a]
To what degree did you find that the simulation aided in your understanding of the complexities of regional planning?	7.05	2.19
To what extent did you gain insight into the subjective factors involved in decision making?	6.65	2.13
To what degree do you think Enviro County increased your awareness of the types and complexities of issues which Planning Commissions face today (decision-making groups --similar groups)?	6.86	2.28
To what extent was the type of information presented in the simulation new to you?	4.95	2.69
In general, how well do you think Enviro County simulates the actual regional planning problem?	7.44	1.66
To what degree do you feel that the participants used the same decision-making process in resolving the simulated problems that they use when confronted with similar but real problems?	6.32	2.17

[a]The standard deviation for each mean clearly indicated a clustering of the scale values around the mean.

The second portion of the evaluation queried the participant concerning the realism and applicability in the instructional setting of the simulation procedure. Responses to the questions were as follows:

Table 3. Evaluation of Content and the Decision-Making Process

Question	Mean	Standard Deviation
What is your evaluation of the use of this type of simulation activity as a means to review and discuss the broad array of alternatives available on a given problem?	7.90	1.99
Do you feel that the roles portrayed a realistic picture of people and interests involved in regional planning?	7.75	1.99
Do you feel that the experience in group dynamics gave you a greater insight into the role of human emotions and values in decision making? Yes 82% No 18%		
How do you rate the use of this type of simulation as a device to evaluate public opinion?	5.70	2.44
How would you rate simulations such as Enviro County as an instructional method?	8.54	1.75

The last section of the evaluation dealt with organizational questions which were responded to as follows:

Table 4. Responses Concerning Organizational Questions

Question	Mean	Standard Deviation
How well was the activity organized and conducted?	8.87	1.34
How do you rate the arrangement of facilities?	8.14	2.01
How do you rate CSEC staff performance in reference to the simulation?	8.68	1.56

Discussion

It is immediately apparent from a review of Table 1 that the recall of various components of the simulation was unusually good. In that some three to eight months of time had elapsed since the respondents participated in the simulation, one must assume that what transpired during the simulation was of some use and importance to the participant. Berelson and Steiner also indicate that the primary determinant of how well something is recalled is directly dependent on how strong an impression was made in the first place[18]. The probability is very small that the participants would have correctly recalled the variables queried with the degree of accuracy indicated in Table 1 had less impressive methods been employed. Also evident from the data is that the simulation provided for better perception and more efficient understanding of such complex notions as the regional planning process. It must be understood that the recall of some of the participants was undoubtedly aided by the fact that the material presented was not unfamiliar to them; thus, measures made in our survey are also indicators of retention involving previously learned material. Such measures of recall usually demonstrate quite effectively the residual effects of previous learning experiences. Nevertheless, it is evident that the simulation experience was remembered in considerable detail by the vast majority of the responding participants.

The scale score responses requesting an "impact" evaluation generally indicated that the participants felt that Enviro County had some-to-considerable impact on the variables stated in these questions. It is important to note that of all of the responses the mean scale

value to the query "Was the information presented new to you?" had relatively low value and the largest standard deviation from the mean. It has already been indicated that this response implies that in a number of instances the participants were at least familiar with the information, and it is very likely that this tended to improve their recall of specific components of the simulation.

The evaluation of the simulation as a training and instructional procedure clearly indicates that the participants felt that the simulation would be most useful in the educational setting. The small standard deviation and the high scale score value on the rating of the simulation as an instructional method is evidence of the uniformity of responses on this issue. (See Table 3.)

Conclusions

Although the data collected to a large degree involve subjective evaluation of the simulation activity, it is apparent that the overall response to the simulation was positive. The recall evidence likewise supports the notion that this simulation gaming procedure has considerable long-term impact which does not diminish significantly over time. One could conclude that this particular type of gaming simulation could be used quite effectively to prepare citizens to deal with related problems, since the process of simulation, as evidenced by the data presented, closely approximates reality. Futher use of the simulation with other user groups is in progress, and this effort will be evaluated and compared with the information derived from this assessment.

APPENDIX B

ENVIRO COUNTY PARTICIPANTS

ENVIRO COUNTY PARTICIPANTS

Anderson County Community Action Commission

Anderson County Young Democrats

Environmental Quality Commission of the League of Women Voters of Oak Ridge

Federal Executives from the Executive Seminar Center (U. S. Civil Service Commission) in Oak Ridge - Seminar on Administration of Public Policy

Federal Executives - Seminar on Federal Program Management

Federal Executives - Seminar on Intergovernmental Programs and Problems

Federal Executives - Seminar on Management of Natural Resources

Federal Executi - Seminar on Management of Organizations

Oak Ridge Environmental Quality Advisory Board

Regional Naval Reserve Meeting sponsored by Oak Ridge Naval Reserve

Tennessee Association of City Managers Annual Meeting

Mixed group of public officials, planners and scientists from East Tennessee

U. S. Naval Reserve Research Unit of Oak Ridge

University of Tennessee, Agricultural Economics Department Club for graduate and undergraduate students

University of Tennessee, School of Architecture (several classes)

University of Tennessee, Department of Biology, graduate class in environmental management

University of Tennessee, Department of Marketing, class on marketing and the environment (several sessions)

University of Tennessee, Planning Department graduate class

University of Tennessee, Department of Sociology, graduate class on urban problems

University of Tennessee, Department of Sociology, class on social welfare

APPENDIX C

DESCRIPTION OF ENVIRO COUNTY

Enviro County Physical Array

ENVIRO COUNTY - DATA PACKAGE

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4. Correspondence Pertaining to Problem 2
5. Character Cues for Problem 2

D. Problem 3 - Highway Location Analysis and Mass Transportation

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4. Character Cues for Problem 3

E. Problem 4 - Water Quality and Availability

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1. Alternative 1 (Turnkey III)
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C. Problem 3

1. Alternative 1 (New Rapid Transit Highway)
2. Alternative 2 (New Open Access Highway)
3. Alternative 3 (Limit the Access on the Existing Highway)
4. Alternative 4 (Mass Transportation)

D. Problem 4

1. Alternative 1 (Purification and Treatment Plant)
2. Alternative 2 (Wells)
3. Alternative 3 (Reservoirs)
4. Alternative 4 (Pumping Stations)
5. Alternative 5 (Pollution Fines)

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1. Alternative 1 (Retain Coal Power Plant as It Is)
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VI. EVALUATION OF SEVERAL CHOICE COMBINATIONS

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The Chairman's Manual for

ENVIRO COUNTY

A Gaming Simulation of the Regional Planning Process

"Enviro County" is a simulation gaming activity that provides participants with insight into regional land-use planning. The simulation has been designed to emphasize the integration of political, social, economic, and natural environmental issues in the resolution of several complex sociotechnical problems.

The game simulates a single and very important meeting of the Regional Planning Commission of a fictional Enviro County, wherein participants assume positions as Commission members or interested citizens. (See Attachment I for map of Enviro County.) The Regional Planning Commission is one of a number of associated state-wide county planning commissions working toward the common goal of better land use in urban and rural areas. (See page 7 of the Chairman's data notebook for Enviro County Planning Commission legal relationships.) Created by state law, the Regional Planning Commissions must review and make recommendations to legislative bodies on all land-use plans, new zoning and rezoning requests, major utility modifications, and related public services in the planning region. The Planning Commission must also review and recommend which proposals for industrial and associated developments would significantly affect land-use patterns in their jurisdiction.

The Planning Commission has no final approval powers and can only make recommendations to the appropriate legislative bodies such as the legislature, county court, or city council, all of whom are elected

political bodies. However, the fact that 80 percent of its recommendations have been approved by the local legislative body clearly emphasizes the influence and responsibility of the participating commissioners.

All of the Commission members have been appointed to their positions because of their association with certain persons and organizations. Therefore, each of them have unwritten responsibilities to these persons and organizations. This causes the Commission to have a very high incidence of conflicting vested interests and pressures in making decisions to resolve the problems of Enviro County.

The Enviro County Regional Planning Commission is composed of fourteen members plus a chairman. The Commission members and their occupations or associations are as follows:

(1) Dr. John D. Stone, Chairman - medical doctor
(2) Mrs. Phillip R. Roth - President of the Community Arts Council
(3) A. J. Heck - bank president and board chairman of Volatate Chemical Corporation
(4) Aaron Cromer, Ph.D. - Associate Director of the County Mental Health Center
(5) Otis Phelps - owner of water pumping company
(6) Mrs. Andrea Parks - State Chairman of DAR and Executive Director of the local YWCA
(7) R. M. Boles - labor union steward and a machinist for Volatate Chemical Corporation
(8) Thomas Woycik - owner of a furniture store
(9) G. Bruno Lorenzo - supervisor in a local paper company and resident of economically depressed area in the City of Changeburg
(10) C. B. Cooper - accountant for Volatate Chemical Corporation
(11) Bob Harrison - dairy farmer and president of the local Grange Association
(12) Frank O'Grady, Ph.D. - meteorologist from Environmental Services Administration
(13) Ralph Williams - chemical engineer from Volatate Chemical Corporation
(14) Miss Hillary Masters - account executive from Ryan Associates and an advocate of women's liberation
(15) Jeff Ayres, Ph.D. - Chairman of the General Studies Department at Changeburg Community College.

The chairman may choose to replace any of the above Commission members with one of the substitute roles in order to change the ratio of males to females on the Commission or to choose roles which are biased toward a specific interest group. The substitute roles and their occupations or associations are as follows:

(1) Horace Baker - retired principal of Franklin Change Memorial High School
(2) Everette Sanders, Ph.D. - coordinator of chemical technicians curriculum for Changeburg Community College and a former employee of Volatate Chemical Corporation
(3) Lillian Hurst - Supervisor of Nursing at the Mary E. Cosgrove Memorial Children's Hospital
(4) Emily Michaels - psychology teacher at Changeburg Central High School
(5) Rhoda Ritter - housewife concerned with environmental problems
(6) Paige Denney - social worker with Enviro County Department of Corrections
(7) Edward Matzell - real estate broker and president of Enviro County Chamber of Commerce
(8) Louise Chandler - Changeburg socialite
(9) Carol Quimby - owner of a dress shop.

The chairman should refer to pages 8-21 of the information notebook for the names and a complete character description of all members and substitute members of the Commission. (See Attachment III for sample character descriptions.)

Even though the Commission consists of only 14 members and a chairman, a larger group than this may participate in any given session of the simulation. The additional individuals will assume the roles of the audience or interested citizen participants assigned to them by the chairman at the beginning of the session. The audience participant roles which have been developed and are available for this purpose are:

(1) students at Changeburg Community College
(2) members of the League of Conservationists
(3) residents of the economically depressed area or "hub" of Changeburg
(4) Enviro County farmers
(5) residents of Suburban Hills.

The participants in the simulation should be seated at tables surrounding the large three-dimensional model of the county. The individual who is to serve as Chairman of the Commission or someone designated by him should place the following materials at each seat prior to the arrival of the group:

(1) A large information notebook containing a description of Enviro County, role information, the meeting's agenda, the problems and alternatives, background information, and related data. (See Attachment V for a sample problem, alternatives, and background information.)

(2) A copy of the Changeburg Times, the largest daily newspaper published in Enviro County.

(3) Note paper and pencils.

(4) Name plates for each of the Commission members.

(5) Ashtrays if smoking is to be permitted during the session.

The following additional items should be placed on the table in front of the chairman's seat: a gavel, a pointer, the information notebooks for all substitute roles, the audience participants' packets and a parliamentary procedure rule book.

An easel should be set up near where the chairman will be seated and where it can be easily seen by all Commission members. The large architectural drawings of a Turnkey III house, chemical factory, office building, limited access highway, water purification plant, and park should be placed on a table near the easel and where the chairman will have easy access to them (See Attachment IV for a sample of these drawings). The following models should be placed on the same table with the drawings: a chemical factory, coal plant addition, nuclear power plant, and water pumping stations.

Since the simulation will normally run for a period of four to six hours, it will be very helpful in creating the informal atmosphere desired for the game if coffee or soft drinks and cookies or donuts can be made available for the participants. Arrangements for these refreshments should also be made prior to the arrival of the group. (See Attachment VI for time requirements for each portion of the activity.)

The chairman may choose any 15 of the 24 roles available for the members of the Planning Commission for any given session. The roles he chooses will be determined by the sex ratio of the particular group involved. Although there may be some amusing and outstanding performances by men in women's roles and vice versa, there will usually be better role playing on the part of all participants if every member assumes the role of a member of his or her own sex.

If the ratio of men to women in a particular group is known, the chairman should select roles which are consistent with that ratio and which he wishes to use with that group prior to their arrival. If the ratio of males to females in a particular group is unknown to the chairman before they arrive to participate in the simulation, he should place materials on the tables for the first fifteen Commission members listed on pages 9 and 10 of the chairman's information notebook. In the event that these roles are not consistent with the sex ratio of that particular group, the chairman should substitute roles as needed immediately upon the arrival of the group.

In the substitution of roles, the chairman may choose roles which are biased toward a specific interest group if he wishes. Some of the roles representing various interest groups are:

(1) Volatate Chemical Corporation - A. J. Heck, R. M. Boles, C. B. Cooper, Ralph Williams, Everette Sanders

(2) Large and/or small business - G. Bruno Lorenzo, Thomas Woycik, Otis Phelps, Hillary Masters, Edward Matzell, Carol Quimby

(3) Economics - Ralph Williams, C. B. Cooper, A. J. Heck

(4) Beautification and esthetics - Mrs. Phillip Roth, Miss Hillary Masters

(5) Recreation - John D. Stone, C. B. Cooper

(6) Environment - Frank O'Grady

(7) Women's Rights - Hillary Masters

(8) Community Tradition and History - Mrs. Andrea Parks

(9) Labor - R. M. Boles

(10) Farming - Bob Harrison

(11) Church or Religious Matters - Bob Harrison.

The chairman should note that some of the individual Commission members represent two or more interest groups.

The chairman certainly may use any 15 of the roles available that he wishes with any particular group. However, it has been observed through three years of experimental and pilot use with divergent groups participating in this activity that the simulation is more effective if a majority of the first 15 roles listed on pages 9 and 10 of the simulation guidebook are used. Therefore, it is recommended that the chairman use as many of these prime roles as possible.

The atmosphere of the game from the introduction to the final evaluation is critical in determining the success with which the game is played and its impact upon the players. Therefore, the chairman should insure that comfortable surroundings are provided, that the session is

conducted in as informal a manner as possible and that the participants feel relaxed. This relaxed atmosphere is also significant in determining the rapidity with which the participants assume their roles and the game itself.

The conduct and actions of the chairman from the moment the participants arrive until the conclusion of the session is a very critical factor in determining the success of the simulation. He should meet and greet the participants as they arrive in a very friendly and informal manner and direct them immediately to the area where the game is located.

As soon as all participants are present, the chairman should ask each of them to select the role they wish to assume from among those that have been placed on the table and be seated. If the group has more than 14 members, the additional individuals should be seated in chairs in back of those assuming roles as Commission members. These people will assume the roles of audience or interested citizen participants. The chairman should assign each of them an audience participation role and provide them with the corresponding information packets at this time.

The chairman should then immediately begin the introduction to the game procedures. This rapid involvement in the simulation is important in creating a sense of reality and identifying with Enviro County. Because the roles themselves are particularly suited to forcing the emergence of value systems, interests, emotions, and other nonrational elements present in decision making, the creation of an atmosphere which hurries and eases the transition into the simulation can be the critical factor in its success. In his introductory discussion, the chairman should do the following:

A. Using the material given in pages 1-3 and page 7 of the chairman's information notebook, he should:

1. Thoroughly describe the game as a simulation activity

2. Discuss the function of the Enviro County Regional Planning Commission and its legal relationships

3. Discuss the parliamentary procedure and other rules to be followed during the session

4. Explain the information packets that have been placed on the tables before the participants

5. Discuss how the participants may use any real or imaginary information which they may have as individuals

6. Urge the participants to play the role of the Commission member they have selected as completely as possible

7. Explain that movement during the session is not restricted and that is is permissible for the participants to move around and privately discuss the problem under discussion with other members of the Commission

8. Explain that after the introduction the session will be conducted as a leaderless group discussion and that no content or situation questions may be directed to the chair for an answer.

(The time alloted for this discussion should be 8 minutes.)

B. Utilizing the three-dimensional model of the county and the material found on pages 4-6 of the simulation guidebook, he should thoroughly describe Enviro County and the City of Changeburg. It is especially important that he mention the following during this meeting:

1. The size of the county (900 square miles)

2. Population (69,000 people, 87 percent of whom live in the City of Changeburg)

3. The land along both sides of Ono Lake is presently zoned for commercial purposes

4. The county has two suburban areas--one inside and one outside the City limits

5. The prevailing winds blow in a northwesterly direction over the county at an average velocity of eight miles per hour

6. There are two severely economically depressed areas in the City of Changeburg

7. Unemployment in the county is 3.6 percent and has been rising slowly but steadily for the last ten years

8. The county is served by one major highway and one railroad

9. Explain the color code utilized in the model and point out that this is found on page 6 of the simulation guidebook

(This discussion should require no more than 10 minutes.)

C. He should explain the function that the audience participants are to serve in the session. This explanation should require about two minutes and include the following:

1. All of them have an interest in one or more of the problems before the Commission

2. They should be encouraged to present their character and circumstances in support of their stands in creative ways

3. They may address the Commission at any time during discussion, but they may not make motions or vote

Upon the completion of the chairman's introductory discussion, he should offer to answer any content or procedural questions which the participants may have. No more than 20 minutes should be used in this introductory discussion.

After all questions have been answered, the participants should be asked to spend the next 20 minutes studying the information notebooks and the newspaper, the Changeburg Times. It should be explained that the group will be given time to study the information relating to each problem before it is introduced and that during this initial study period they should concentrate on the introductory material and the information pertaining to Problem 1. This includes the material in the information notebook on pages 1-31. (The complete agenda for the meeting is given in Attachment II.)

At the conclusion of the 20-minute study period for the introductory material and Problem 1, the chairman should formally open the session by banging his gavel and stating: "Ladies and Gentlemen, the regular meeting of the Enviro County Regional Planning Commission is now in session. The meeting will come to order, please. Item 1 on our very long agenda today is a request from the Volatate Chemical Corporation for the rezoning of Parcels 365, 366, and 367 from Ag-1 (agricultural) to I-2 (heavy industry)." The chairman may state the reason for this request is that the chemical corporation wishes to build a new chemical factory on the parcels of land under question. He should place the model of the chemical factory on the county model at the location where the proposed factory would be built. He should also place the large architectural drawing of the proposed plant on the easel where all participants can see it and point out that they have a smaller drawing of the plant in their materials. The chairman should then ask Dr. O'Grady to read the two pieces of correspondence relating to this request which have been received by the Commission. These pieces of correspondence are found on pages 30 and 31 of the information notebook.

After the correspondence has been read by Dr. O'Grady, the chairman should immediately ask if any member of the Commission wishes to make a motion pertaining to the request under consideration. When a main motion has been made, the chairman should ask if there is a second to that motion. As soon as a motion has been made and seconded, he should ask if there is discussion pertaining to the motion on the floor.

The chairman should conduct the ensuing discussion as a leaderless group discussion and should refrain from making any comments for or against

the motion on the floor. His major function during this period should be to see that each member of the Commission who wishes to be recognized is given an opportunity to speak. He should make sure that the discussion is carried on in an orderly manner and that those wishing to speak address their comments to the entire Commission rather than to individual Commission members as much as possible.

The period of time devoted to the leaderless group discussion on Problem 1 will be determined by the particular group involved and the total amount of time that they have to play the game. The chairman should let the discussions continue as long as the comments are relevant to the motion on the floor or until an individual Commission member calls for a vote on the motion. However, in no case should the discussion on this problem continue for more than 40 minutes. In some cases, the chairman may have to create a time pressure here.

After a call for a vote on the motion on the floor has been made by a member of the Commission, the chairman should restate the original motion to make sure that each member of the Commission knows what he is voting on. He should then ask all Commission members who are in favor of the motion as stated to raise their right hand. Those opposing the motion will be asked to do likewise. The chairman should vote only in the case of a tie vote on the motion by other members of the Commission.

The group should now be given 15 minutes to study the materials relating to Problem 2 on pages 31-49 of the information notebook and to make individual preparations for discussing this item on the agenda.

At the conclusion of this 15-minute study period, the chairman should state: "All members of this Commission are aware that Parcels 562 and 563,

locally known as the "hub" in the City of Changeburg, is an economically depressed area. Item 2 on our agenda today has to do with various proposals being made to this Commission for the redevelopment of this urban sector. The proposals before the Commission are:"

1. "A Federally financed Turnkey III project involving both Parcels 562 and 563." (At this point the chairman should point out the exact location of the two parcels of land under consideration and place the large drawing of a Turnkey III house on the easel for all to see.)

2. "The development of an inner-city park and general recreational area involving Parcel 562 only." (The chairman should point out this parcel on the county model and place the drawing of the proposed park on the easel.)

3. "The rezoning of Parcel 563 to permit the construction of a multistory office building." (He should point out this parcel on the model and place the drawing of the proposed office building on the easel.)

The chairman should explain that, if the Commission so desires, they may combine Proposals 2 and 3 since each of them involve separate parcels.

Before asking for a motion concerning this problem, Dr. O'Grady should be asked to read aloud the two pieces of correspondence to the Commission found on pages 47-49 of the information notebook. At this time, the chairman should then ask for a motion pertaining to Problem 2 and proceed as with Problem 1.

In the event that the first motion relating to this problem is eventually voted down by the Commission, the chairman should then ask for a motion that the Commission accept and recommend one of the other alternatives. This should be continued until a majority of the Commission

members vote to accept one of the alternatives or to accept none of them and take no action on this problem.

During the discussions of Problems 2 through 5, the chairman should be very firm and force the Commission members to keep their comments relevant to the motion on the floor. He should not permit any discussion of the alternatives to the solution of the problems that are not being discussed at that particular time. For example, if a motion has been made to accept the request for the rezoning of Parcel 563 for an office building in Problem 2, the chairman should not permit the Commission members to discuss the pros or cons of the Turnkey III Project during the discussion on the motion to accept the request for an office building. It should be made very clear to all members of the Commission that before any of the alternatives can be discussed they must be brought to the floor for discussion by a major motion.

The leaderless group discussion of Problem 2 should be permitted to continue as long as the discussions are relevant to the motion on the floor and do not become redundant or exceed 40 minutes. Voting on the motions shall be conducted as discussed under Problem 1.

As soon as a majority of the Commission members have voted to accept one of the alternatives to Problem 2, they should be given 15 minutes to study the materials on pages 50-58 of the information notebook and to make individual preparations for discussion of Problem 3.

The chairman should introduce Problem 3 by stating: "Ladies and Gentlemen, Item 3 on the agenda for today is the consideration of four proposals that have been made to the Commission by the State Highway

Commission for alleviating the traffic congestion on Washington Highway. The four proposals are:"

1. "Build a new four-lane, limited-access highway." (The chairman should now place the model of the proposed highway on the appropriate location on the county model.)

2. "Build a new four-lane, open-access highway." (He should explain that under this plan the same type highway would be built in the same location as in Proposal 1 but would have unlimited access to it.)

3. "Limit access on Washington Highway and build marginal access roads." (The chairman should place the models of the marginal access roads on the county model in the proposed locations and place the drawing of Washington Highway with the proposed access roads on the easel.)

4. "Approve the first stage of a mass-transportation project."

Immediately upon the completion of his introduction of Problem 3 and the proposed alternatives for its resolution, the chairman should ask for a motion pertaining to the problem. The group shall then proceed with discussion and voting as with the previous problems until one of the alternatives has been accepted by a majority of the Commission members voting.

The leaderless group discussion on the first motion relative to this problem should not exceed 30 minutes. The chairman may have to create a time pressure in order to bring the motion to a vote within the alloted time period. He will again have to be very firm in making sure the discussions are centered on the motion on the floor and are relevant to it.

The participants should now be given a 15-minute period to study the material relating to Problem 4 on pages 59-65 in the information notebook and to make individual preparations for consideration of this problem.

The chairman will introduce Problem 4 by stating: "The Health Department reports that within a year the water in Ono Lake will be potable but substandard. The alternatives for the resolution as proposed by the Planning Commission's professional information staff are:"

1. "Build a new purification and water treatment plant." (The chairman should place the model of the proposed plant at the appropriate location on the county model and place the drawing of the plant on the easel.)

2. "Dig wells throughout the city."

3. "Build reservoirs in Parcels 94, 95, and 96." (The chairman should point out the exact locations of these parcels on Bobcat Ridge.)

4. "Build a series of pumping stations to bring water to Changeburg." (The chairman should place the models of these pumping stations in the proposed location on the county model.)

5. "Youths for a Better World, the League of Conservationists, the Changeburg Nature Trailers, and other concerned citizens propose that industries pay fines based on their degree of pollution of the environment."

After having stated Problem 4 and the alternatives from which the Commission may choose in an attempt to resolve the problem, the chairman should ask Dr. O'Grady to read the correspondence to the Commission, which is on page 63 of the information notebook.

The chairman should now ask for a motion that the Commission accept one of the stated alternatives for the resolution of Enviro County's water problem.

When a motion has been made and seconded, the group discussions and voting should proceed as with the previous problems. The maximum time spent in discussion of the first motion made relative to this problem shall be 30 minutes. If the original motion does not pass, the chairman should ask for a motion that one of the remaining alternatives be accepted. The second motion then will be discussed as was the first. The time required for discussion of this and any subsequent motions usually will not exceed 15 to 20 minutes. This procedure should be followed until one of the alternatives is accepted by a majority of the voting members of the Commission.

The group should now be given 20 minutes to study the materials relating to Problem 5 on pages 66-74 of the information notebook and to make any other individual preparations for the discussion of this problem and the alternatives for its solution.

At the conclusion of this 20-minute study period, the chairman should introduce Problem 5 by stating: "Members of the Commission, Item 5 on today's agenda has to do with the increasing demand for power in Enviro County. The City and industries of Changeburg require more power if they are to enlarge. The Planning Commission must decide what power change, if any, would be recommended for consideration by the County. The alternatives which have been proposed for the resolution of this problem are:"

1. "The local electric utility company is proposing to complement the present 200-megawatt capacity coal-fired steam plant with a 600-megawatt capacity nuclear power plant, resulting in a combined power output of 800

megawatts." (The chairman should place the model of the nuclear plant at some location on the county model. He should explain that a site for this plant has not been selected and that this would be done at a later date if the county decided to eventually build the nuclear plant.)

2. "Several citizen groups have banded together in support of the nuclear power plant but feel the present coal-fired steam plant should be phased out upon completion of the nuclear plant. This would give the county a total power output of 600 megawatts."

3. "A proposal was made some time ago by local industries to expand and redevelop the present coal-fired plant to a 700-megawatt capacity by 1975." (The chairman should place the model of the coal plant addition at the appropriate location next to the present power plant on the county model.)

4. "A large number of county residents, particularly those in Fairhaven Heights and Suburban Hills, have proposed the development of a 100-megawatt capacity hydroelectric power plant at Ono Dam as a complement to the coal plant." (The chairman should place the model of the hydroelectric plant on the county model just north of Ono Dam.)

5. "A petition has been received from the Committee for the Preservation of Enviro County requesting the Planning Commission to take no action on this matter and leave the present coal plant as it is."

The chairman should at this point ask for a motion that the Planning Commission accept and recommend one of the stated alternatives for the resolution of Enviro County's power problem. After a motion has been made and seconded, the leaderless group discussion and voting on the

motion should proceed as with the previous problems. The time alloted for discussion of the first motion relative to Problem 5 should be no more than 30 minutes.

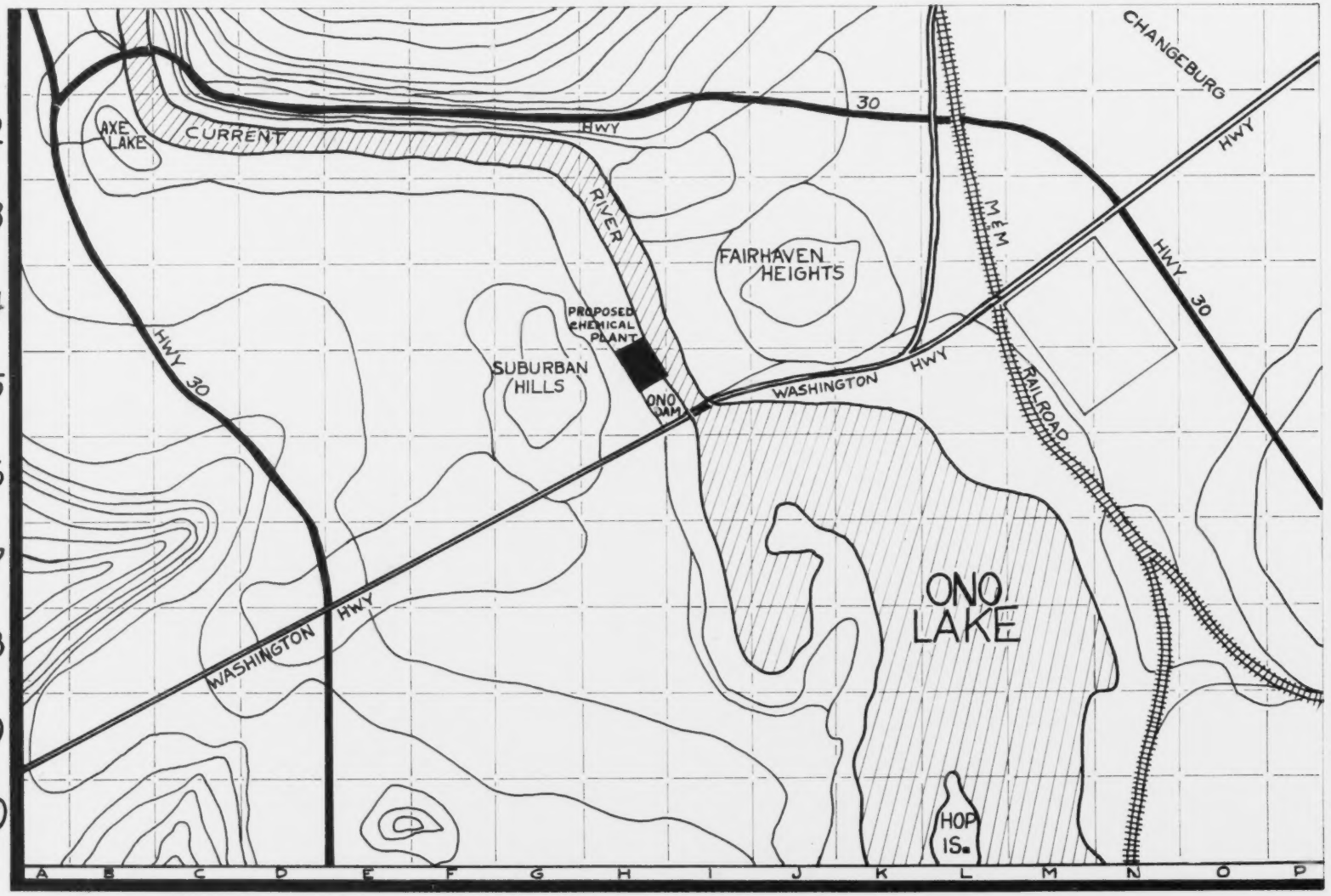
In the event that the first motion does not pass, the chairman should ask for a motion that one of the remaining alternatives be accepted by the Commission. This procedure should be followed until one of the alternatives is accepted by a majority of the Commission members voting on a given motion. The time spent in discussion of the second and any subsequent motions pertaining to Problem 5 should be no more than 15 to 20 minutes per motion.

At the conclusion of the simulation gaming activity, the chairman may wish to spend some time with the group in evaluating their performance as a decision-making body. He should discuss the environment, social, and economic consequences that the decisions they have made will have on Enviro County and its residents. The chairman may use information on pages 93-125 of the information notebook for this purpose. In this discussion, he may also wish to point out why certain combinations of decisions made by the group are particularly good or bad combinations. This information is found on pages 126-131 of the information notebook. The time spent in an evaluation of the group's performance should not exceed 30 minutes.

The total time required for the entire activity will be from four to six hours, depending on the group involved and how much they participate in the discussions of each alternative.

ATTACHMENT I

MAP OF ENVIRO COUNTY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CHANGEBURG
HWY
RIVER
M&M
FAIRHAVEN HEIGHTS
HWY 30
PROPOSED CHEMICAL PLANT
SUBURBAN HILLS
ONO DAM
WASHINGTON
HWY
RAILROAD
HWY 30
ONO LAKE
WASHINGTON
HWY
HOP IS.

ATTACHMENT II

AGENDA FOR THE REGULAR MEETING OF THE ENVIRO COUNTY
REGIONAL PLANNING COMMISSION

AGENDA

Regular Meeting of the Enviro County Regional Planning Commission

Dr. John D. Stone, Presiding

Call to Order:

1. Volatate Chemical Corporation requests the rezoning of Parcels 365, 366, and 367 from Ag-1 (agricultural) to I-2 (heavy industry).

2. Parcels 562 and 563 constitute an economically depressed area.

   a. Citizens for a Better Future, Incorporated, propose that Parcels 562 and 563 be redeveloped with Federal aid under the Turnkey III urban renewal project.

   b. The Beautify Changeburg Committee, the Bureau of Parks and Recreation, and the Citizens Project committees request the rezoning of Parcel 562 from Residential, R-1-C, to Greenbelt, G, and the development of a municipal part in this area.

   c. The Volatate Chemical Corporation requests the rezoning of Parcel 563 from Residential, R-1-A, to Office, Classification, O.

3. The State Highway Commission submits four proposals to alleviate the traffic congestion on Washington Highway:

   a. Build a new four-laned limited-access highway.

   b. Build a new four-laned open-access highway.

   c. Limit access on Washington Highway and build marginal access roads.

   d. Approve the first stage of a mass-transportation project.

4. The Health Department reports that within a year the water in Ono Lake will be potable but substandard. Alternatives proposed by the Planning Commission's Professional Information Staff:

   a. Build a new purification and water treatment plant.

   b. Dig wells throughout the city.

   c. Build reservoirs in Parcels 94, 95, and 96.

   d. Build a series of pumping stations to bring water to Changeburg.

4. Continued

   e. Youths for a Better World, the League of Conservationists, the Changeburg Nature Trailers, and other concerned citizens propose that industries pay fines based on their degree of pollution of the environment.

5. Action needs to be taken concerning the increasing demand for power in Enviro County.

   a. Build a 600-megawatt capacity nuclear power plant to complement the existing 200-megawatt capacity coal-fired steam plant.

   b. Build a 600-megawatt capacity nuclear power plant and phase out the present coal-fired steam plant upon the completion of the nuclear plant.

   c. Expand and redevelop the present coal-fired steam plant to a capacity of 700 megawatts.

   d. Build a 100-megawatt capacity hydroelectric power plant at Ono Dam as a complement to the coal plant.

   e. Leave the present coal plant as it is and do nothing to increase the quantity of power available in Enviro County.

Adjournment.

ATTACHMENT III

SAMPLE CHARACTER DESCRIPTIONS

SAMPLE CHARACTER DESCRIPTIONS

A. J. Heck

A. J. Heck is a Board Member of Volatate Chemical Corporation. Because it was his work alone that made him what he is today, he thinks that he is somewhat better than his counterparts on the Planning Commission. Heck is a bank president concerned with his own interests, and under provocation may coldly exercise vast powers. However, he is conscious of his power base and does not unnecessarily offend others. He articulates well his attitude toward pollution, urban redevelopment, and other issues which might threaten his financial interests at Volatate Chemical.

G. Bruno Lorenzo--Alderman Dist. 2 Changeburg

Elderly Mr. Lorenzo rules his large family with an iron hand, although raising eight children has given him an objective manner in whatever he does. Because of his respect for the democratic process and social concern, he fought some corrupt politics and demanded better housing in his community. He has recently finished paying for his own house, which is located in an economically depressed area on the western outskirts of Changeburg (map reference M-4). As in his younger days, Mr. Lorenzo still respects authority, yet demands every human's rights. His personal determination aided him in his rise from the assembly line to supervisor in a local division of I. M. Scribbling Paper Company. His many experiences in city politics have given him many valuable friends and associates in the political arena.

Mrs. Parks

Sixty-five-year-old Mrs. Parks is always seen in public wearing a flowered hat and a smile. She is a firm believer in tradition and tries always to follow the example set by her own mother. Since the wedding of her youngest daughter, she has been able to spend more time at the local YWCA office (where she is serving as Executive Director). The success of many community projects has been determined by Mrs. Parks. Her ability to circulate news and to conscript volunteer workers is renowned, although she may be offended easily if her advice is not properly requested. Her ideas for community improvement must generally be carried out by someone else, but as she says, her planning is probably more difficult than the job itself. She is still basking in the rush of congratulatory notes which followed her recent election to state chairmanship of D. A. R., a position which has given her many new social contacts. She and her husband have lived for many years in a fine old town house in downtown Changeburg.

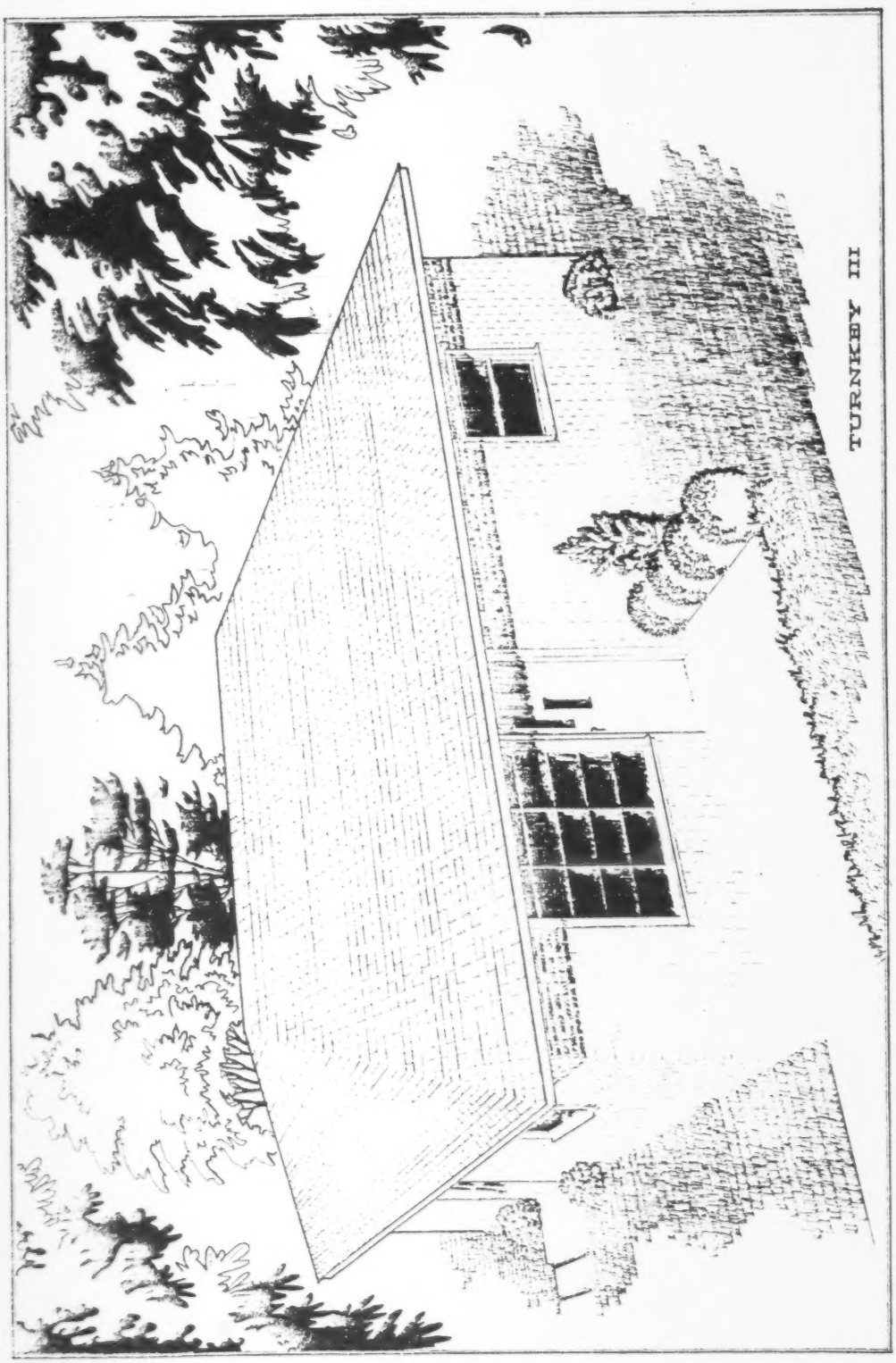
SAMPLE CHARACTER DESCRIPTIONS (Continued)

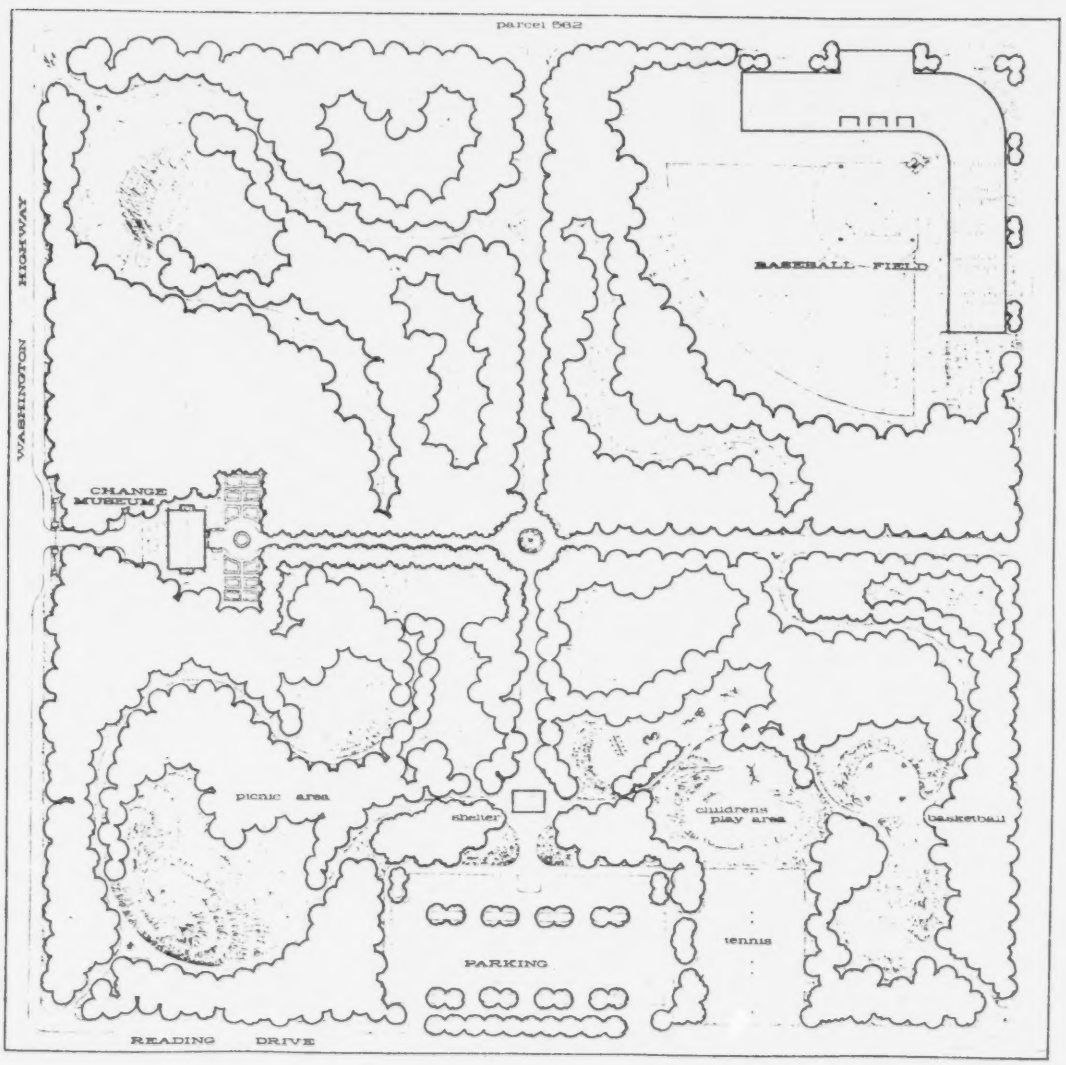
John D. Stone, M. D., Chairman

Dr. Stone is a good family man who lives up to the fine reputation of the old Stone family, pioneers of the Changeburg community, His beautiful home in Fairhaven Heights has been in the family for five generations. His professional bedside manner is an integral part of him--as is his conservative, logical mind. His patients are primarily suburbanites, the majority of whom claim him to be the best and most honest surgeon in their five-state area. Being the father of two teenage sons keeps him diplomatic, open-minded, yet strong. He's in fine physical condition and enjoys camping and boating along the Current River with his wife, two sons, and nine-year-old daughter.

ATTACHMENT IV

SAMPLE DRAWINGS


TURNKEY III


parcel 562
WASHINGTON HIGHWAY
BASEBALL - FIELD
CHANGE
MUSEUM
picnic area
shelter
children's
play area
basketball
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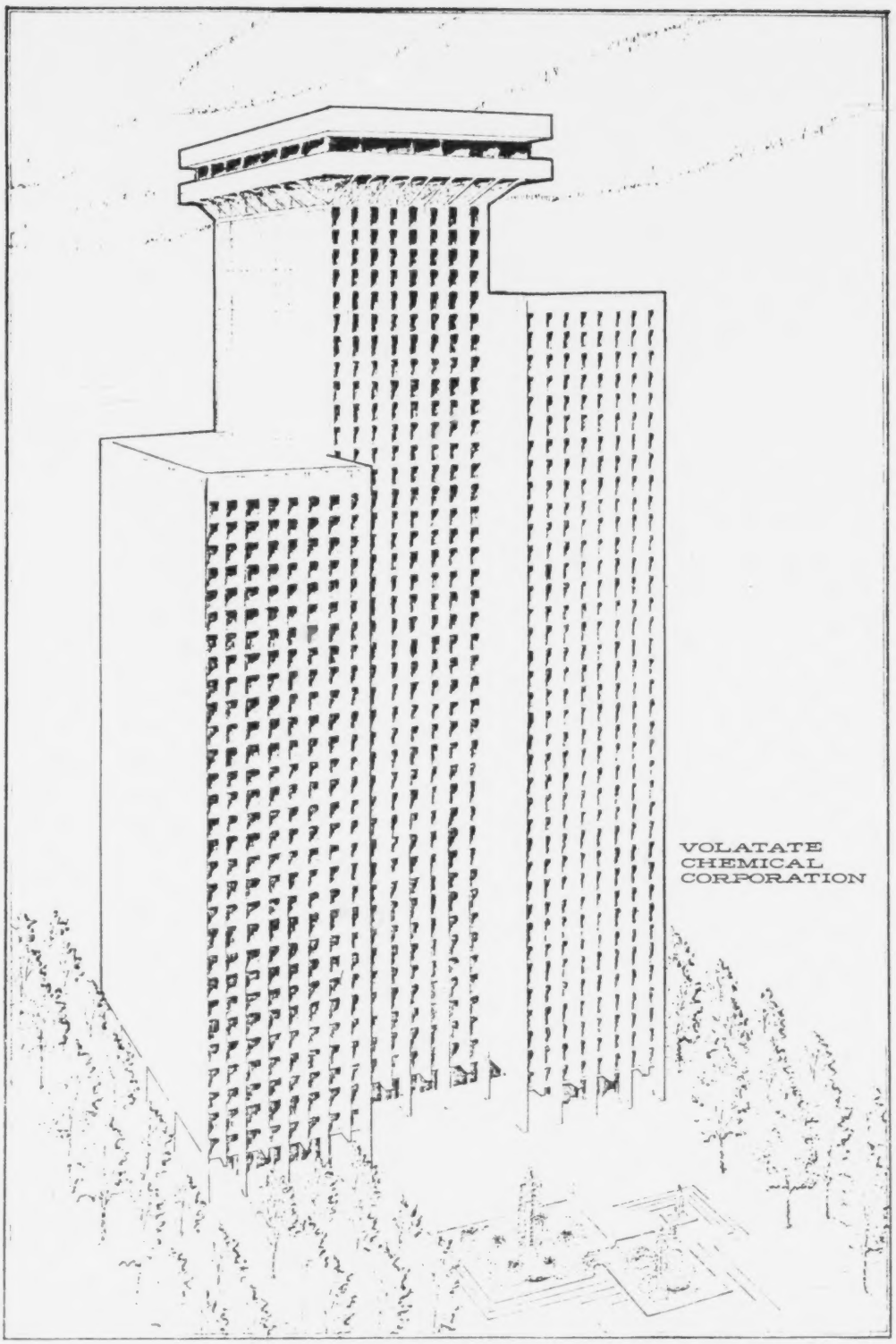
READING DRIVE


VOLATATE
CHEMICAL
CORPORATION

ATTACHMENT V

SAMPLE PROBLEM

PROBLEM 2

PROPOSAL

Parcels 562 and 563 (map reference M-4 and M-5), locally known as the "hub," are economically depressed areas. Various proposals are being made to RPC for the redevelopment of this urban sector. The proposals before the commission are:

1. A federally financed Turnkey III Project--Involving both the aforementioned parcels (562 and 563).
2. The development of an inner-city park and general recreational area involving Parcel 562 only.
3. The rezoning of Parcel 563 to permit the construction of a multistory office building.

GENERAL BACKGROUND INFORMATION

The area under consideration includes Parcels 562 (4 square city blocks) and 563 (2 square city blocks) and involves 360 houses, 3,000 residents, and covers 54 acres. It is located on the western outskirts of Changeburg. The boundaries of the area are Washington Highway on the north, Reading Road on the east, Tripney Street on the west, and Grayson Road on the south.

The area is composed of many of the oldest homes in the city. As the early homeowners in the area moved out, property values decreased and lower income families moved in. Two hundred of the homes are single residences, 150 are multiple dwelling, and 10 are condemned. Not all of the existing houses are occupied. Five hundred families and 191 individuals live in these parcels. There is an average of 5.8 persons per family. The average monthly rent is about $80.00. In these parcels, 38% of the buildings use oil heat, 22% use gas heat, 35% use coal heat, and 5% use electric heat.

The average annual family income is $2,650.00. In 1971, 51% of the families earned $3,000. or more annually. There are 23% of the area residents who are unemployed.

Seventy-one percent of the residents are nonwhite. Approximately 10% are Spanish speaking. The whites and nonwhites generally occupy separate subneighborhoods within the two parcels.

There is fairly good public transportation, but the roads are in disrepair and are poorly lighted. This area of the city has the highest crime rate of any similar sized area in Changeburg. The neighborhood

has one older school with grades 1-6, approximately 40 small businesses, and one small chain grocery store.

The 136-year-old mansion of Mr. Franklin Change, the founder of Changeburg, is located in Parcel 562, and is now a museum.

ALTERNATIVES FOR PROBLEM 2

In response to our recent study of Parcels 562 and 563 (M-4 and M-5 on tne map--all six of the city blocks under consideration in this problem) of the City of Changeburg in Enviro County, the Citizens for a Better Future, Incorporated, propose that this area be redeveloped with Federal aid under the Turnkey III Home Ownership Plan to provide badly needed housing facilities.

The Federal Turnkey III project not only provides single family residences for an economically depressed area, buy also makes it possible for the low-income family to eventually buy a home. The rent on the new project houses is 20% of the family's income. The family can earn up to $200.00 in "sweat equity" by doing minor repair work during the first two years. After these two years, this money serves as down payment on the house, and the family may purchase the house through several financial plans. The government also provides $500.00 per unit to train residents in being homeowners.

A family must have a minimum income of $3,000.00 to participate in the program. If a family fails to meet the monthly payments, it can no longer participate. The new project will house approximately 100 families.

OVERVIEW - Proposal 1

The Turnkey project for Parcels 562 and 563 is estimated at a cost of 1.3 million dollars. One-third of the project will be financed by the City and two-thirds by the Federal government. The City's share can be paid by the amount of money it spends on streets, sewers, park land, schools, other public expenditures, and cash.

The housing project has many advantages. The small street parks included in the project will provide a place for children to play. Travel to and from the city by way of Washington Highway will be more aesthetically pleasing. The State Planning Commission's professional staff says that the crime rate in areas of other urban renewal projects has decreased by as much as 36%. The sanitary and health standards in the area will also improve. The incidence of rat bites to small children will decrease, and removal of debris from the area will destroy nesting places of various pests. Broken stairs and railings, weak floors, and other safety hazards will be eliminated. Electric heating units will be installed.

In the area concerned, 65% of the houses will be cleared, 25% rehabilitated, and 10% left as they are. Of the 40 businesses, 20 will be cleared, 7 rehabilitated, and 13 retained.

The Citizens for A Better Future, Inc., feel that relocation of the present residents can be accomplished by: (1) Building temporary housing facilities for present residents who must be relocated, (2) Beginning the project in an area where few buildings are occupied and where few residents plan to move into the new units after relocation and, (3) Taking

advantage of the Federal programs providing moving expenses and money to help residents who must relocate and buy new homes.

Although there is now some agitation among the residents of the parcels for complete rehabilitation, it is not feasible or reasonable to spend money to rehabilitate a structure with little positive, long-term results for the money spent. The Federal Department of Housing and Urban Development would not approve such a program. Rehabilitation would only end up being a continual repair job and would limit the future possibilities for the community.

OVERVIEW - Proposal 2

The Beautify Changeburg Committee, the Bureau of Parks and Recreation, and the Citizens Project Committee feel that the City of Changeburg needs a play area for children and recreation area for family, church, and other groups. Therefore, the above propose that a city park be constructed on Parcel 562 (M-4 on Map; 4 of the blocks under consideration in this problem) and the said area be rezoned from Residential, R-1-C, to Greenbelt, G.

The park would serve the City of Changeburg, but would primarily be used by those living in the immediately surrounding area. A baseball field with 500 stadium seats and measuring 90' between bases, would be constructed on Section II (see accompanying map), Parcel 562 in the southeast corner. This would provide a playing field for local residents, Little League tournaments, and various other competitions. Play equipment, swings, seesaws, and a slide would be installed for small children in the south corner of Section III. Sections IV and I would be planted with trees on the northwest side, with picnic facilities, and garbage

receptacles distributed throughout. Trees planted on the north and northwest sides will form a natural noise barrier and visual screen. A small fountain surrounded by benches in the center of the park will provide a cool resting place and help in cooling the heat given off by the city's asphalt. A small shelter will be built in the south corner of Section IV.

Although there are other parks in Changeburg, they are all outside Enviro County. We feel that an easily accessible park for residents of Enviro County is a very important and useful addition.

It will cost approximately $900,000. to level the buildings and install the park facilities. General upkeep will cost the city approximately $3,200. per month. A minimal admission charge may help with this general upkeep. This park will truly be an attractive and useful means of utilizing Parcel 562.

INFORMATION CONCERNING THE DEVELOPMENT OF AN INNER-CITY PARK IN CHANGEBURG

It is possible that Federal funds would become available for park and other recreation facilities, as well as for a restoration of Mr. Change's house, if proper action is taken by the Commission and local legislators. The Federal Government's Open Space Land Program represents a consolidation of the Department of Housing and Urban Development's (HUD) former Open Space Land, Urban Beautification, and Historic Preservation grant programs. The three programs were replaced by a single, expanded program of aid for these purposes under the Housing and Urban Development Act of 1970 (P.L. 91-609). Initially, the term "Legacy of Parks" referred to HUD's consolidated, simplified Open Space Land Program and a related effort under the Department of the Interior to provide

assistance for park and recreation development, including dedicating surplus Federal land to local governments for park use. The title, "Legacy of Parks," is no longer being used.

HUD's Open Space Land Program provides matching grants which may cover up to 50 percent of project costs based on fair market value of the property acquired and other eligible project costs for acquisition and development of park and recreational land; for environmental improvements such as landscaping, street furniture, ornamental lighting and paving on publicly owned or controlled land; and to help acquire, restore and improve historic and architecturally significant property, including moving historic buildings, where necessary, to preserve them. In addition, the program provides grants to states and local public bodies for up to 75 percent of the cost for acquiring interest in undeveloped or predominately undeveloped land which has special significance in helping to shape economic and desirable patterns of urban growth ("urban shaping").

In evaluating applications for grants, all the characteristics that make up an urban area, not just population, are to be considered in consonance with the community-wide approach taken by the legislation. Given below is section 4.208 of the Act which lists some criteria that must be met in order to receive Federal funding:

4.208 Project location criteria.

> (a) Authorized projects must be located in an area which is urban in character. This includes those surrounding areas which in the judgment of the Secretary, form an economic and socially related region, taking into consideration such factors as present and future population trends and

> trends and patterns of growth, location of transportation facilities and systems, and distribution of industrial, commercial, residential, governmental, institutional, and other activities.
>
> (b) Where there may be a question of meeting the urban area requirement, determinations as to eligibility will be made by HUD.

To secure Federal funding the applicant must show that local funds are available or authorized for the project. Evidence of availability of funds must show that necessary local legislative approvals and authorizations have been given, including authorization for specific project financing when State or local public funds are used. Part of the local share may be provided by donated materials or land as provided in section 4.248.

The major recent historical preservation legislation is the National Historic Preservation Act of 1966 (P.L. 89-665). This Act authorized explanding the National Register of Historic Places (maintained by the National Park Service, U. S. Department of the Interior) to include properties of State and local historic significance nominated for listing by the states; it created the Advisory Council on Historic Preservation, made up of Federal agency heads and private persons appointed by the President, and it established special review requirements pertaining to undertakings proposed for Federal assistance or licensing which would affect property on the National Register of Historic Places.

OVERVIEW - Proposal 3

The Volatate Chemical Corporation requests the rezoning of Parcel 563 (M-5 on the map; two of the six blocks under consideration in the problem) from Residential, R-1-A, to Office Classification, O. Volatate

plans to buy the 2/5 of the land not already owned by the Corporation and to erect an administration building, housing 250 offices and employing 425 people. The new building will provide six new janitorial jobs.

The Volatate Chemical Corporation favors the Parcel 563 location because 3/5 of this conveniently located land is already owned by Volatate. Volatate will buy unowned land from the present owners at a very reasonable price. Adequate parking and eating facilities will be provided for those working in the building. Not only will the landscaping be aesthetically pleasing, but the trees and fountain included in the landscaping will absorb noise and act as cooling agents. The new building will be heated by electricity. No historic landmarks are located within the proposed building site.

PROBLEM II

STATE DEPARTMENT OF HEALTH EDUCATION AND WELFARE

REPORT ON THE CIVIC EFFECTS OF THE

FEDERAL TURNKEY III PROJECT

The evaluation of information collected after the completion of the Federal Turnkey III Project in participating municipalities across the State in predominantly nonwhite residential sections has borne out some significant general tendencies. These generalities concerned such crucial civic problems as crime rate, public health, and unemployment. The completion of the projects resulted in permanent relocation of 67% of the residents of the area to some other section of the city.

Before the project was instituted the average family consisted of 6.2 persons with an income of $2,233.60 per annum. On the average, 23% of the residents were unemployed, and 27% were receiving some sort of state and/or local welfare. Relocation resulted in 65% of those employed losing their jobs. This resulted in an increase of welfare expenditures of 11.6% and corresponding city-wide rises in unemployment of 0.83%. Within the renewed project areas, unemployment dropped by an average of 10.4%.

Health conditions in the project area pertaining to communicable diseases and rat bites decreased by an impressive 47%. There was, however, a corresponding rise in the health conditions in similar substandard residential areas where the majority of the relocated families were forced to move. This rise was recorded at 12.7% in these areas.

The pattern taken by the crime rate seems encouraging. Completed project areas reported a decrease of major crimes committed by 63%. The cities' major crime rate increased at an 11.7% clip despite this drop in the project areas.

PROBLEM II

STATE-WIDE AVERAGES FOR

COMMUNITIES INVOLVED IN PROJECT TURNKEY III

RENEWAL AREA

	Before Renewal	After Renewal
Crime Rate (No. per 1,000 population)	163	60.3
Unemployment Rate (Percent)	23%	12.6%
Population Proportion Reporting Incidence of Communicable Disease	73%	35.3%

TOTAL URBAN AREA

	Before Renewal	After Renewal
Crime Rate (No. per 1,000 population)	71	82.3
Unemployment Rate	4.60%	4.683%
Population Proportion Reporting Incidence of Communicable Disease	43%	48.4%

RPC CORRESPONDENCE: PROBLEM 2

(TO BE READ BY O'GRADY SECT.)

OFFICIAL REPORT OF THE PROFESSIONAL STAFF

OF

THE STATE PLANNING COMMISSION

Data and information collected and analyzed to date indicate that in certain large-scale urban renewal projects as many as 25% of the relocated residents move to structurally substandard housing. Also, one-third of the small businesses displaced during a large scale housing project go out of business, and many relocate outside the city. In general, only one-half of those families on a public housing site are eligible for public housing, and only 20% of the relocated families move back into the public housing once it is completed. Studies of relocation results have shown a pattern: housing is somewhat improved, rents increase (i.e., present rent $35/month, rent after relocation $50/month, for an annual income of $3,000), the ratio of rent to home ownership increases.

Seventeen hundred people will be displaced by the renewal project. Of those, about 60% are employed, and 28% are drawing either Social Security or welfare benefits as their sole income.

About 53% of the people living in Parcels 562 and 563 are eligible for the housing project.

TO: THE ENVIRO COUNTY REGIONAL PLANNING COMMISSION

We, the undersigned residents of Changeburg, living in the area being considered by this Commission as Parcels 562 and 563 (the "hub") request the Commission to recommend that the Turnkey III project be constructed in this area for the following reasons:

(1) The crime rate, poor lighting, poor housing, and disrepair of the streets in this section make it, at present, a bad reflection on the City of Changeburg. The Turnkey III project will clean up all of this at relatively minimal expense to the city and county (because of the amount of Federal funds and the way in which the city may contribute its financial share).

(2) The Turnkey III project would eliminate a local eyesore while creating an aesthetically pleasing area. This has special emphasis because of the amount of tourist traffic on Washington Highway which serves as one boundary to this area.

(3) The fact that Turnkey III provides for homeownership would create a sense of pride and responsibility in the neighborhood, thus increasing incentive for maintenance of the area and a certain reduction in the crime rate.

(4) Turnkey III provides street-side parks for residents therefore satisfying the present need for a recreation area.

(5) We residents, knowing that it is not possible under Turnkey III to locate everyone back into the neighborhood who presently resides there, feel it is more beneficial to all concerned that even 20% return to the area than having all 100% displaced.

(6) Those residents who must be relocated have the aid and financial support of the project for this. The other proposals before the Commission do not allow for relocation expenses.

(7) Lastly, during construction, Turnkey III provides temporary housing for the residents of this area, thus eliminating what might be a major problem.

(This petition was prepared with the assistance of J. R. Cartwright, attorney at law)

PETITION TO ENVIRO COUNTY PLANNING COMMISSION

SIGNATURES

Henry A. Smith

Eva Wilderson

John N. Jacobs

Darren P. O'Brien

Brenda Davis

Leroy F. Jones

Anthony Becelli

Daniel Kobos

Otis Johnson

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500 names

ATTACHMENT VI

TIME REQUIREMENT

ENVIRO COUNTY BASIC SEQUENCE

		Time Requirement Estimate in Minutes
Chairman	Fundamental Concept and Enviro County Basic Information	10
Chairman	Establishment of Commission Role	5
Chairman	Establishment of Individual Roles	5
	Individual Preparation-Introductory Material and Problem #1	20
	Leaderless Group Discussion-Problem #1 on Agenda	30
Chairman Creates Time Pressure		
	Individual Preparation for Problem #2	15
Time Pressure		
	Leaderless Group Discussion-Problem #2 on Agenda	40
	Individual Preparation for Problem #3	15
	Leaderless Group Discussion-Problem #3 on Agenda	30
Time Pressure		
	Individual Preparation for Problem #4	15
	Leaderless Group Discussion-Problem #4 on Agenda	30
Time Pressure		
	Individual Preparation for Problem #5	20
	Leaderless Group Discussion-Problem #5 on Agenda	30
Time Pressure		
	Evaluation of the Simulation Activity and the Performance of the Participants	30

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SPECIAL 4TH CLASS RATE BOOKS

Dr. Nicholas Helburn
Social Science Education Consortium
970 Aurora
Boulder, Col. 80302

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